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Practitioner empathy, patient enablement and health outcomes: A prospective study of acupuncture patients

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Abstract

Objective: To measure acupuncture patients' perceptions of practitioner empathy at the initial consultation and its relationship with patient enablement, and prospectively reported changes in symptoms.
Methods: Fifteen acupuncturists asked consecutive new patients to complete a questionnaire within 2 days of the first consultation. The questionnaire included the Consultation and Relational Empathy (CARE) measure (a consultation process measure), the Patient Enablement Instrument (PEI, a consultation outcome measure) and the Measure Yourself Medical Outcome Profile (MYMOP), a patient-centred symptom, well-being and activity outcome measure. A postal follow-up questionnaire was completed at 8 weeks, which repeated these measures.
Results: Fifty-two patients (58% of all new patients) completed the initial questionnaire. Of these, 41 (79%) completed the follow-up questionnaire. From a multiple regression analysis, which controlled for known confounders, empathy was found to be associated with enablement at the initial consultation (Beta coefficient = 0.16, 95% CI: 0.02–0.31, $p = 0.03$) and empathy-predicted changes in health outcome (MYMOP) at 8 weeks (Beta = 0.07, 95% CI: 0.004–0.13, $p = 0.04$).
Conclusion: Patients' perception of practitioner empathy was associated with patient enablement at initial consultation and predicted changes in health outcome at 8 weeks.
Practice implications: The empathy of practitioners, as perceived by patients, has a direct impact on patient enablement and health outcome.

Keywords: Traditional acupuncture; Empathy; Enablement; Health outcomes; Well-being; CARE measure; PEI; MYMOP

1. Introduction

The clinical encounter between patient and practitioner is the core activity of all systems of health care. As such, the practitioner–patient relationship has been extensively investigated in conventional care, particularly in the primary care setting [1–3] and links have been made between patient-centred consultations and health outcomes [4,5].

Acupuncture patients are known to place a high value on their relationship with their acupuncture practitioner [6]. Establishing the contribution, if any, of this therapeutic relationship towards health outcome is important in order to understand the processes that may contribute to the effects of acupuncture treatment.

Previous, exploratory work in a cross-sectional study of traditional acupuncture has suggested links between patients' perceptions of their practitioners' empathy, patient enablement and retrospectively assessed health outcome [7]. In primary care, enablement scores have been found to be higher if the patient knows the practitioner well [8,9], which

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appears to reflect the effect of the therapeutic relationship. In previous studies in homeopathy, empathy was found to be the key explanatory factor in enablement [10,11].

The present paper reports a prospective study using validated instruments to estimate the impact of empathy on both enablement and health outcome. Secondary objectives were to explore patient-reported changes in symptom burden, well-being and activity status.

2. Methods

Eighteen acupuncturists were recruited to the study. The acupuncturists were members of the British Acupuncture Council (BAcC) who worked in rural and urban areas throughout the United Kingdom. Their experience ranged from 2 to 20 years. Between 5 and 10 questionnaires, according to the number requested, were sent to all 18 practitioners, 110 in total, and in turn they handed the questionnaires, with an information sheet and consent form, to consecutive new acupuncture patients. The acupuncture practitioners recorded the age, sex and main complaint of these consecutive new patients in a practitioner log. Patients who consented to participate in the study received a follow-up questionnaire by post at 2 months (two postal reminders were sent if necessary).

Three validated measures, which have been used in a range of conventional and complementary medicine settings, were used in the questionnaire:

- the patient's perception of the practitioners' relational empathy the Consultational and Relational Empathy (CARE) measure—which is a process measure of the clinical encounter [12,13].
- The Patient Enablement Instrument (PEI [8,9]), which is a measure of the patients' enablement as an immediate outcome of the consultation.
- A health outcome measure (Measure Yourself Medical Outcome Profile (MYMOP [14]), with four components; including change in primary symptom, well-being and activity status.

Within the CARE measure 10 questions ask patients to rate aspects of empathy based on the question ''*How was your doctor at* ...?'' Examples of the questions are ''*Being interested in you as a whole person*'' and ''*Really listening*'', with each question scoring a maximum of five points [12]. For this study, a variation in the validated measure was that the word acupuncturist was substituted for the word doctor.

The PEI was developed as an outcome measure for quality of consultation and has been used extensively in general practice as a quality measure related to but distinct from patient satisfaction [15]. Six questions ask the patient how to rate the extent to which their most recent consultation had increased their ability to understand and cope with their illness and cope with their life, their ability to keep healthy, their confidence about their health and their ability to help themselves. The PEI scores a 0 for the answers to all six questions being 'the same or less', and a maximum of 12 for scoring 'much better' for all six questions [8,9].

MYMOP is a patient-centred medical outcome scale where patients are asked to rate four items (two main symptoms, well-being and activity status). For the symptoms, the precise wording was: ''*choose one or two symptoms* (*physical or mental*) *which bother you most. Write them on the lines. Now consider how bad each symptom is, over the last week, and score it by circling your chosen number*''. Patients are asked to score how much these one or two main symptoms inhibit a chosen activity (such as walking), and rate their well-being during the past week. The follow-up form was completed 2 months after the first treatment with the key researcher entering the symptoms reported in the initial form. All four items are scaled with the low end, 0, '*being as good as it can be*' and the maximum 6 '*being as bad as it can be*'. An improvement in health outcome represents a decrease in score for MYMOP. MYMOP was analysed as a mean of the four item scores, labelled the mean MYMOP profile score, which has a range of 0–6. Three items within MYMOP: symptom 1, activity status and well-being were also analysed individually through comparison of means.

MYMOP is normally self-completed initially with a health care worker present, but in this study the patients were given a stamped-addressed envelope to complete and return the questionnaire by themselves within 2 days of the first consultation. Permission was sought from participants to receive a telephone call to confirm the answers given on the initial MYMOP form. A selected sample of consenting patients were telephoned, and only one form was adjusted as a result. Although MYMOP is not validated for self-completion at home, a self-complete method has been used previously [5]. Patients were reassured that the completed questionnaires were confidential and at no point would their practitioners have access to them.

Ethical approval for the study was obtained from the Multi-centre Regional Ethics Committee (Lothian) and the British Acupuncture Council. The protocol was also approved under the internal ethical review scheme within the Department of Public Health Sciences at the University of Edinburgh.

2.1. Statistical analysis

The software SPSS was used to analyse the data, including chi-square and *t*-tests to compare responding and non-responding patients. Standard methods were used for the calculation of confidence intervals. The exploratory analysis of interrelationship between outcome variables and 'explanatory' variables were based on the use of multiple regression models, using baseline values as covariates.

3. Results

During the study, of the 18 practitioners who agreed to help recruit patients, 2 withdrew due to ill health and 1 due to lack of time. The remaining 7 male and 8 female acupuncturists gave 89 questionnaires to consecutive new patients according to the practitioner log (six incomplete questionnaires remain unaccounted for). Of the 89 new patients at baseline, 52 (58%) patients completed and returned the baseline questionnaire and 41 of these 52 (79%) completed and returned the follow-up questionnaire at 2 months.

3.1. Patient characteristics at baseline

Of the total 52 participating patients at baseline, 36 were women (69%) and 16 were men (31%) (Table 1). The mean age for men was 48 (95% CI: 39–57) and for women was 50 (95% CI: 44–56). Forty (77%) of respondents had received further education and 31 (60%) had a degree or professional qualification (results not shown). Health status (over the previous 12 months) was reported as being good/fair by the majority of patients, and the majority were married (Table 1). Thirty-five (67%) of respondents had had their main symptom for more than a year.

It was possible, by comparing the practitioner log with the study group by age and sex, to calculate the age and sex of the non-responders. The mean difference in age between responders and non-responders was 2.65 years (95% CI: −4.79 to 10.10) which was not statistically different (*t*-test, $p = 0.48$). The proportion of males and females also did not differ significantly ($\chi^2 = 0.04$, d.f. = 1, $p = 0.84$), with 69% of the study group being female, compared to 65% of the non-responder group.

Table 1
Patient characteristics at baseline

	n (%)
Age (mean = 49.5, 95% CI: 45–54) (years)	
≤30	7 (13.5)
31–45	15 (28.8)
46–50	14 (26.9)
>60	16 (30.8)
Sex	
Female	36 (69.2)
Male	16 (30.8)
Duration of symptom 1	
2–4 weeks	2 (3.8)
4–12 weeks	2 (3.8)
13–52 weeks	13 (25)
>1 year	35 (67.3)
Health status	
Very good	6 (11.8)
Good/fair	31 (60.8)
Bad/very bad	14 (15.7)
Marital status	
Single	13 (25)
Married/living together	32 (61)
Divorced/widowed	6 (12)

3.2. Primary symptoms

In Table 2, the categories of the reported first MYMOP symptom are presented and compared with the symptoms recorded by acupuncturists in the practitioner log (which includes the non-participants in the study). For a further comparison, the symptoms reported in the 2002 National acupuncture safety survey [16] are also included in the table. As can be seen, the distribution of symptoms is reasonably similar between groups, with the commonest reason for consulting in all three groups being musculo-skeletal problems.

3.3. Empathy, enablement and health profile

The mean empathy (CARE), enablement (PEI) and health outcome (MYMOP) scores at baseline and follow-up are displayed in Table 3.

Mean empathy score at initial consultation and follow-up showed no significant change (mean difference = 2.08, 95% CI: −0.38 to 4.53). In contrast, the mean enablement score at first consultation was considerably lower than at follow-up (indicating an increase in enablement). The (mean difference = 1.57, 95% CI: 0.31–2.83) was subject to a paired *t*-test ($p = 0.02$) demonstrating a significantly higher enablement score at follow-up than at initial consultation.

The mean MYMOP scores (overall profile and the individual components including primary symptom, activity and well-being) showed a reduction in scores between baseline and follow-up (indicating an improvement in health outcome). The mean initial and follow-up scores were subject to a paired *t*-test for the mean profile score (mean difference = 1.41, 95% CI: 0.96–1.86, $p \leq 0.001$); primary symptom (mean difference = 1.51, 95% CI: 0.91–2.11, $p \leq 0.001$); activity (mean difference = 1.46, 95% CI: 0.84–2.09) and well-being (mean difference = 1.24, 95% CI: 0.72–1.77, $p \leq 0.001$).

3.4. Relationships between empathy, enablement and health outcomes

To establish whether practitioner empathy at the initial consultation was important for patient enablement, a multiple regression of initial PEI scores (dependent variable) was performed with initial CARE measure scores, plus age, sex and marital status as covariates. The distribution of the residuals was examined and assumptions of normality met (results not shown). Although age, sex and marital status (entered as a binary variable) did not have statistically significant associations with PEI, their inclusion in the model did alter the strength of the association with the initial scores for the CARE measure and the PEI and therefore they were kept in the model. The MYMOP profile score was not

Table 2
Primary symptoms of participating patients

Variable	Primary symptom (symptom 1 within MYMOP) (%)	Primary symptom (practitioner log) (%)	2002 National acupuncture patient survey [16] (%)
Musculo-skeletal	24 (46.2)	37 (41.6)	3560 (38.1)
Emotional	5 (9.6)	13 (14.6)	1047 (11.2)
Digestive	6 (11.5)	4 (4.5)	434 (4.6)
Metabolic/fatigue	0	6 (6.7)	123 (1.3)
Headache/neurological	5 (9.6)	4 (4.5)	763 (8.2)
Other	12 (23.1)	25 (28.1)	3413 (36.6)
Total	52 (100)	89 (100)	9340 (100)

Comparing 'symptom 1' from MYMOP with the 'main complaint' from the practitioner log and with a National survey of acupuncture patients.

Table 3
Empathy, enablement and health outcome at baseline and at 8 weeks follow-up

Variable	*n* (%)	Mean	Median	S.E. mean	Lower 95% confidence interval	Upper 95% confidence interval
Empathy (CARE) (initial)	51 (98.1)	42.35	44	0.97	40.40	44.30
Empathy (CARE) (follow-up)	40 (76.9)	40.57	40	1.29	37.96	43.19
Enablement (PET) (initial)	46 (88.5)	3.62	3	0.54	2.89	4.76
Enablement (PET) (follow-up)	38 (73.1)	5.2	5	0.66	3.72	6.28
MYMOP profile score (initial)	52 (100)	3.66	3.75	0.21	3.24	4.08
MYMOP profile score (follow-up)	41 (78.8)	2.25	2.5	0.19	1.84	2.65
MYMOP symptom 1 (initial)	52 (100)	3.76	2	0.24	3.27	4.23
MYMOP symptom 1 (follow-up)	41 (78.8)	2.24	2	0.23	1.79	2.70
MYMOP well-being (initial)	52 (100)	3.43	3	0.24	2.95	3.92
MYMOP well-being (follow-up)	41 (78.8)	2.19	2	0.20	1.78	2.61
MYMOP activity (initial)	51 (98.1)	3.82	4	0.24	3.35	4.3
MYMOP activity (follow-up)	41 (78.8)	2.36	2.0	0.31	1.74	2.98

included, as it did not alter the other covariates significantly. The results, displayed in Table 4, indicate that perceived empathy in the initial consultation is significantly associated with the patient enablement resulting from this consultation (Beta = 0.16, 95% CI: 0.02–0.31, $p = 0.03$). Overall, 12.7% of the variance in enablement was explained by the model, with the CARE Measure accounting for most of this (10%).

To determine the key factors influencing change in health status (as measured by MYMOP) a multiple regression analysis of the change in mean MYMOP profile score (dependent variable) was also performed. Although age, sex and marital status did not have strong associations with the change in MYMOP profile score they again were kept in the model as they altered the strength of the association with the other covariates. Baseline MYMOP profile was also included as a covariate. The results, reported in Table 5, demonstrate that the patient's perception of practitioner empathy (initial CARE measure score) is predictive of change in health outcome at 8 weeks (as measured by MYMOP profile (Beta = 0.07, 95% CI: 0.004–0.13, $p = 0.04$). The results show that patient enablement (initial PEI) is not significantly associated with change in health outcome (MYMOP) at 8 weeks. Overall, 54% of the variance in health outcome was explained by independent

Table 4
Factors associated with patient enablement at initial consultation

Variable	Beta	S.E.	95% confidence interval		*p*-Value
Intercept	−3.61	3.68	−11.04	3.82	0.33
Empathy (CARE) (initial score)	0.16	0.07	0.02	0.31	0.03
Age	−0.01	0.03	−0.06	0.05	0.73
Sex	0.08	1.05	−2.06	2.2	0.93
Marital status $R^2 = 0.127$	0.53	0.51	−0.49	1.56	0.3

Regression analysis with enablement (initial PEI) as the dependent variable and age, sex, marital status and empathy (CARE) as covariates.

Table 5
Factors associated with health outcomes at 8 weeks

Variable	Beta	S.E.	95% confidence interval		*p*-Value
Intercept	−5.36	1.77	−8.9	−1.73	0.005
Empathy (CARE) (initial score)	0.07	0.03	0.004	0.13	0.04
Enablement (PEI) (initial score)	0.09	0.06	−0.03	0.23	0.13
MYMOP profile (mean initial score)	0.85	0.15	0.5	1.2	<0.001
Age	0.000	0.01	−0.03	0.02	0.97
Sex	−0.16	0.4	−1.0	0.69	0.71
Marital Status $R^2 = 0.54$	0.23	0.20	−0.16	0.64	0.27

Regression analysis with MYMOP profile change score as the dependent variable and age, sex, marital status, empathy (CARE), enablement (PEI) and MYMOP profile (initial score) as covariates.

variables shown in Table 5, with the largest proportion being explained by the baseline MYMOP profile (33%), followed by CARE Measure score (16%), PEI (4%), and age, gender and marital status (1.3%).

Regression analyses were also undertaken for the changes in the three components of the MYMOPS (primary symptom, activity and well-being) using the same independent variables as for the MYMOP profile analysis. Empathy had the strongest association with activity status (Beta = 0.13, 95% CI: 0.05–0.21, $p = 0.002$), followed by well-being (Beta = 0.05, 95% CI: −0.01 to 0.11, $p = 0.09$) and the weakest association being with primary symptom change (Beta = 0.05, 95% CI: −0.2 to 0.12, $p = 0.15$).

4. Discussion and conclusion

4.1. Discussion

The present study has investigated acupuncture patients' perceptions of practitioner empathy, patient enablement and changes in primary symptom, activity and well-being 8 weeks later. The results show that patient enablement resulting from the first consultation (an immediate outcome) and health benefits at 2 months (a prospective outcome) were both significantly related to the patients' perceptions of the practitioners' empathy at the initial consultation.

4.1.1. Empathy, enablement and outcomes in the present and previous studies

The mean scores for practitioner empathy (CARE Measure) and patient enablement found in the present study at the initial consultation are similar to values reported in previous studies [5,7,9–11]. In previous complementary therapies studies [7,11] practitioner empathy has consistently been found to be associated with patient enablement using the CARE Measure. A similar association has also been found in homoeopathy using a different empathy measure [10] and in conventional care (in secondary and primary care settings) using a range of empathy measures (including the CARE Measure) (S. Mercer, unpublished data). The present study reaffirmed this relationship between practitioner empathy and patient enablement, with multi-regression analysis indicating that empathy accounted for some 78% of the explained variation in enablement. It should be noted, however, that the regression model only explained 12.7% of the variation in enablement. Similarly, previous studies using empathy measures [10,11] and other measures of patient-centredness [5] have only been able to explain a relatively small proportion of enablement at the level of individual consultations.

The associations found between empathy, enablement and outcomes in the present study differ from previous findings. A cross-sectional study in acupuncture found no correlation between empathy (CARE Measure) and retrospectively assessed health change, but a significant association was demonstrated between perceived empathy and patient enablement as well as enablement and change in main complaint and well-being [7]. This led the authors to speculate that the causal relationship between empathy and outcomes operates via enablement (i.e., empathy is required for patient enablement, which in turn is important for better health outcome). However, the present study – which is methodologically superior given that it was with newly consulting patients who rated their outcomes prospectively – does not support this earlier conclusion. It should be noted however that in the present study empathy had the strongest association with the change in activity status component of the health outcome score, which was not measured in the retrospective study [7]. Another consideration is that almost a half of the patients in the present study cited a musculo-skeletal problem as their main complaint compared with around a third in the study by MacPherson et al. [7]. Thus, the present findings may indicate an association between practitioner empathy and outcome that is specific to this patient group.

In a recent similar prospective study in homoeopathy (which comprised only 16% of patients with musculo-skeletal problems), neither initial CARE Measure score nor initial PEI score showed any prospective relationship with MYMOP changes [11]. However, initial CARE score was related to perceived changes in main complaint and well-being using a different type of outcome measure, called the Glasgow Homoeopathic Hospital Outcome Scale (GHHOS) at 3 months [11]. Similar prospective work in conventional care (general practice) has shown a relationship between aspects of patient-centredness at consultation and change in MYMOP at 1 month [5]. Clearly, there is a need for ongoing work in this important area of process and outcome.

4.1.2. MYMOP in the present and previous studies

A secondary objective of the present study was to explore changes in symptoms over time, as recorded by patients in MYMOP. Meaningful change for the individual, for a seven-point scale, is deemed to be between 0.5 and 1.0 [17,18]. Of this study group, 25 (60.97%) experienced an improvement of at least 1 on the MYMOP profile score. For the primary symptom (symptom 1) 29 (70.73%) of the study group reported an improvement of at least 1. For well-being, 28 (68.29%) of the study group had an improvement in the score of at least 1.

On comparing the mean profile score of the present study with Paterson's original study [14] which had a mix of general practice patients ($n = 218$) and patients of complementary and alternative medicine ($n = 47$), there were found to be no significant differences. It is interesting to note that the well-being component of the original study and this study when tested was significantly different, with this acupuncture study having a much higher well-being outcome score (results not shown). Although any conclusions drawn must be seen in the light of the size of the study and the lack of a control group, these changes found between the baseline and follow-up score for MYMOP are of a

magnitude that would suggest clinically significant improvement in each domain. Caution needs to be applied in interpreting these results as being specific to acupuncture therapy, as many other factors are likely to have contributed, especially the natural history of the presenting conditions.

4.1.3. Limitations of the study

Of the patients who were handed out questionnaires by their practitioner at baseline, 42% did not return them, resulting in potential bias. The reason for this relatively low response rate is not clear. However, based on data from the practitioner log, we can say with some confidence that non-responding patients were similar in terms of sex and age to the responders, and patients in this study were similar to patients in two other acupuncture studies in terms of age and sex [7,16].

The main complaint for 46.2% of the respondents was musculo-skeletal which compares to 38.1% of the 2002 National acupuncture patient survey [16]. However, in the practitioner log, the proportion of patients with musculo-skeletal main complaints was smaller, suggesting that respondents with other kinds of main complaints less frequently chose to take part in the study. For example, a slighty higher percentage of patients with emotional problems were found in the practitioner log (14.6%) than in the participating sample (9.6%), and compared with the 2002 National survey (11.2%). It is unclear if and how this relatively small discrepancy might have influenced the current findings on empathy and outcomes; patients with emotional problems highly value empathy in the consultation [13] so it is unlikely that the sample of patients who participated were skewed towards perceiving the practioners' empathy more highly (given that fewer of them had emotional problems) than the non-responders or the 'normal' acupuncture patient population (based on the 2002 acupuncture survey figures).

For the acupuncture practitioners, nine of them had been practising for more than 10 years, and six for less than 5 years. The 15 practitioners who agreed to take part in this study may differ in some way from the general population of BAcC members. It is possible that they may be more highly motivated and thus create a more positive impression on their patients. Only by conducting a larger study where the practitioners are chosen at random from the BAcC register before taking part will it be possible to reduce this bias. Knowing that they were giving their new patients a questionnaire to fill in after the first session may mean that they might have tried harder to achieve rapport and results with these particular patients.

The MYMOP measure was always completed without a healthcare worker present, a process for which it has not been validated. However, all the returned forms were fully completed and a telephone check on a select sample of the scores revealed only one discrepancy.

Finally this study was limited by its small size, and the fact that practitioners were not linked to individual patients. This has meant that it was not possible to determine average scores of empathy and enablement for individual practitioners, or identify practitioner characteristics as predictors of outcome, or explore potential variations in outcome between practitioners.

4.1.4. Future research

Future research would benefit from larger numbers of participants, and could usefully address a wider range of potential predictors of outcome. The purpose of this would be to identify the patient and practitioner factors, including the style of acupuncture, that are relatively more effective. Potential predictors to be assessed could include practitioner characteristics such as gender, age, level of experience and style of practice, with a view to determining the impact of practitioner heterogeneity. Multi-level statistical modelling could be used to explore variations in outcome between practitioners as well as the impact of practitioner characteristics on outcome. Potential patient related predictors, beyond what was collected in this study, could include additional baseline characteristics, perhaps including belief in the effectiveness of acupuncture and their expectation about treatment outcome, such that the extent that belief and expectation contribute to outcomes could be explored. Additional predictors to be tracked could include the specific processes of treatment, the role of auxiliary treatments and level of support that practitioners provide in making relevant lifestyle changes.

4.2. Conclusion

The findings of the study support other studies in confirming that there is an association between patients' perceptions of practitioner empathy and patient enablement at initial consultation. However, this study also suggests that practitioner empathy predicts perceived changes in health outcome at 8 weeks as prospectively assessed by this group of new patients. Further research is required to assess the generalisability of these findings to other complementary and conventional care settings.

4.3. Practice implications

Practitioner empathy, as perceived by the patient, will affect patient enablement and health outcome.

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